# A Basic-Administrative-Tasks Software Program and

# a Method of Selling Same

## BACKGROUND OF THE INVENTION

5       ### Field of the Invention

This invention relates to a software program for performing a company's (hereinafter sometimes "user-company") basic administrative tasks (hereinafter "basic tasks" or "tasks"), and a method of selling such a program, which comprises a primary software program that performs such tasks and that includes a set of

10      databases for maintaining data relating to those tasks, with said programs to be sold by a plurality of retailers and to be purchased by user-companies that can immediately use the program after installing it in a computer.

### Description of the Prior Art

There are certain common basic administrative tasks that must be performed

15      by all companies, even though the columns of business of the companies differ. Such basic tasks include, for example: accounting tasks relating to income and expenditures, such as costs associated with doing business; sales/purchases-related tasks for recording and managing data concerning the sales of the company's products or services, customers to which merchandise or services are provided, and

20      purchase orders to suppliers from which materials or services are obtained; and worktime/wages-related tasks involved in managing wage calculations and payments to the company's employees.

The aforementioned basic tasks of companies have enormously high

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commonality with regard to the items to be recorded and managed by each company, as well as to the methods of processing such items, even though the business styles or business fields of the companies differ. Such basic tasks account for most of the processing work of a company, and they are performed every day, week after week

5      and month after month. Therefore, such basic tasks are especially suitable for the mass-processing, precision, and speediness that is possible by using computers.

The present basic-tasks program comprises a graphical user interface (GUI) and a relational-database management system that has a high-speed searching/sorting function for keeping up with the progress of a personal computer and the computer's

10     operating system. The subject program also is capable of being used with a network, which is the usual circumstance when a company's resource data is being prepared.

Because the basic-tasks program is developed by a software company whose personnel who are professionals in such fields as financial accounting, wage calculation, sales/purchases management, and systems engineering, it is designed to

15     be ideal for processing a user-company's basic tasks. Use of such an ideal task-management program can improve the management of companies, particularly small and medium-size companies, which often experience difficulty in securing personnel, and venture companies that are involved in starting up new businesses.

However, prior basic-tasks programs have had problems in that they could

20     not cover either special management items that correspond to specific business fields or management items and methods for realizing a novel tasks-management means based on management concepts that differ among companies. Therefore, the utilization of basic-tasks programs has been limited to companies having a history of applying their own management systems. In order to develop the application

25     programs into which such a company's unique management system can be integrated, a large amount of money and period have been required, because development steps

such as analysis of the existing system, design of a new overall system, detailed design of a database and processing procedures, programming, and testing and debugging have been needed. Also, small and medium-size companies have had additional difficulties in that a longer period of development and higher costs were required for such companies, because they had to contract out the development work to outside software-developing companies, inasmuch as such companies could not secure professionals such as system engineers and programmers, and hence the development work could not be done within the company.

To solve the above-mentioned problems, it is necessary for a basic-tasks program to serve as a basic program that can perform a company's basic administrative tasks in order to achieve their intended effects, but also for the program to be such that there can be developed and operated a separate application program for processing additional data in a way that is compatible with the processing of the company's data by the basic-tasks program.

However, because the basic database and other features of the prior basic-tasks programs could not be customized to be compatible with the application programs that were developed by companies to handle their unique requirements, the use and value of such basic-tasks packages were severely limited.

PROBLEMS TO BE SOLVED BY THE INVENTION

This invention has been created in view of the above-mentioned problems. Its objectives are to provide a customizable basic-tasks program, the customization rules of which are publicized, and to enable sales of such programs to companies and distribution of the customized application in the market.

## MEANS OF SOLVING THE PROBLEMS

For the purpose of solving said problems, the basic-tasks program of the present invention consists of

a module for writing data to tables in order to generate an application program that can process data under both customized and noncustomized conditions contained in a particular data table of a task program, when data is entered into the tables of a database from a computer terminal, with said module for writing data being equipped with a primary means for automatically creating, in a given path of a server computer, a default dump file, under a given filename, that includes all of the information to be contained in the database associated with the tasks, when said task program is launched, and

a (DLL) Dynamic Link Library file for dividing the data entry for each task of said task program into two conditions, the first condition being whether the data is to be or not to be customized, and the second condition being whether the various data, including data concerning a task-related slip and detailed data regarding the task relating to the slip, involves an entry of new data or a revision or deletion of existing data, and for storing a data writing/processing functions group for each combination of the two conditions, with the default dump file being created under a given filename in a given path from said terminal by said primary dump-file-creating means, and with columns being added to an original table comprising the default dump file, or with new tables being created if custom writing is desired, and the function is called up for each table of said various data-writing processings so as to create an application program, whereby said database is modified by said data processing.

Furthermore, said data writing/processing functions groups have arguments in which at least a target-database name, data to be entered, a serial number, and an

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identification number are entered, and the customized writing functions have arguments consisting of the additional data and the additional style formats for inputting the additional information.

Plural terminals are provided, and said module for writing data for maintaining the matching of data in the simultaneously executed entries includes a simultaneous-executions control program for performing exclusive control of each execution unit.

Said basic tasks includes at least any one of the following: accounting tasks, sales/purchases-related tasks, and worktime/wages-related tasks.

The company's resource data that is stored in said group of databases comprises a group of master tables and a group of data tables required for executing at least any of three administrative tasks: accounting tasks, sales/purchases-management tasks, and worktime/wages-related tasks. Said group of master tables comprises at least any of the following tables for a company's basic list of master files: a master list of account titles, a master list of customers, a master list of merchandise, and a master list of personnel, and said data-table group comprises at least tables for a variety of slip data, such as data from accounting-journal slips, sales slips, and purchase slips.

With the method for selling the basic-tasks package or/and a module for writing data as described in Claim 1, 2, 3, 4, or 5, a retailer adds columns or new tables to original tables if a user-company uses a computer system and requests customization of the tasks-related databases, accesses the data writing/processing function corresponding to the customized conditions, including conditions as to whether new data is being entered, previously entered data is being revised, or previously entered data is being deleted from said data writing/processing functions group on the basis of the specific task of said various data entry/processing

operations, enters the name of a writing-target database, the basic data to be entered, a serial number, an identification number, additional data, and a style format for the additional data in terms of the arguments of the selected function, and generates an application program for writing, by batch processing, to the database according to

5    the table unit. The application program is sold by a plurality of retailers as an attachment to the basic-tasks program.

With the method for selling the basic-tasks program or a   module for writing data as described in Claim 6, a user-company or its retailer collects information relating to applications developed by performing customization, stores that

10    information in a database, and publicizes that information on the software company's Website. Such information can be accessed from said database when another user-company wants to perform similar customization.

In a computer equipped with a basic-tasks program comprising plural task programs for executing company tasks and a relational database-storage/processing

15    device comprising a database group for storing the company's resource data required for said task programs. Said basic-tasks program is equipped with a module for entering data into tables so as to generate an application program that can process data under both customized and noncustomized conditions according to the table unit of said task program when the general-purpose data is entered into said database

20    from the terminal of the company's computer system, and said module for entering data is equipped with at least a DLL file for storing a data-accepting/processing functions group corresponding to the customized conditions that the data-accept processing is custom-written or not according to the table of each task program. An application batch program is produced by using said data-accepting-functions group

25    of said module for entering data that corresponds to the customized condition of each table in the database when said general-purpose data text file is processed, and said application batch program is operated so as to sequentially and continuously enter

the data into the database.

Said data-accepting/processing functions groups have arguments into which are entered at least the name of the target database, the full path to the text file of the general-purpose data, the full path of a log-file creating target, a slip number, and an identification character, and the format is additionally set as a program when additional columns exist in the data of the text file.

In a method for selling a basic-tasks program or a module for entering data described in Claim 8 or 9, a user-company's retailer selects the data-accepting function corresponding to the customized conditions that apply when a user-company uses a computer system and wants to enter general-purpose data into the database from the terminal, writes at least the name of the target database, the full path to the text file of the general-purpose data, an identification number, and the format of the additional columns at the time of being customized in the arguments of the accepting function. The retailer then creates and tests an application batch program that is then sold at a plurality of retailers as an attachment to the basic-tasks program.

Also, in the method for selling the basic-tasks program or module for entering data described in Claim 10, said user-company or its retailer collects the information about the application program that was developed by customization, stores that information in a database, and publicizes that information on the software company's Website. That information can be accessed from said database when another user-company wants to perform a similar customization.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a block diagram of one embodiment of the present invention,

showing a basic-tasks processing device using the basic-tasks program.

FIG. 2 is a flowchart showing data entry requiring customization with a module for writing data of the present invention

FIG. 3 is a flowchart of general-purpose text-data processing using a module for entering data of the present invention.

FIG. 4 (1) shows a sales-slip data writing/processing functions group (in the case of a new sales slip to be entered/registered) of the present invention and (2) shows a list of the group's arguments.

FIG. 5 (1) shows a sales-slip functions group (in a case of data being revised or deleted), (2) shows a list of the group's arguments, (3) shows the sales-slip deletion function and (4) shows a list of the sales-slip functions group's arguments.

FIG. 6 shows one embodiment of sales-slip-head data required for initial entry/registration or revision of sales-slip data.

FIG. 7 shows one embodiment of sales-slip detailed data required for initial entry/registration or revision of sales-slip data.

FIG. 8 shows one embodiment of an application program for database writing by using the data writing/processing function of the present invention.

## A DETAILED DESCRIPTION OF THE INVENTION

### The Embodiment of the Invention

FIG. 1 is a block diagram of one embodiment of the present invention, showing a basic-tasks processing device 100 (a computer system of a user-company)

that is used to operate the basic-tasks processing program 10. FIG. 1 also shows computer terminals 1 and 2, a database-storage/processing device 4, a local area network (LAN) 5, and a server computer 6.

Computer terminals 1 and 2 are controlled by a commercial operating system 5 (OS) and are used to operate the basic-tasks processing program 10 after it has been installed in the basic-tasks processing device 100, as shown in FIG. 1.

In the embodiment of the present invention, the basic-tasks program 10 includes at least a sales/purchases-tasks program 11, a financial-accounting-tasks program 12, and a worktime/wages-related tasks program 13, as well a customizable 10 data writing/processing software module 20 that ensures that data being input from a computer terminal 1 will be compatible with the tables of the databases into which the data is being input and that are stored in the database-storage/processing device 4.

The data writing/processing software module 20 comprises data 15 writing/processing functions groups 20a that corresponds to each of the task programs to be operated under either customized or noncustomized conditions; a simultaneous-executions limiting means 20b, for maintaining compatibility in the case of simultaneous executions by each table unit; and a primary dump-file-creating means 20c that, at the time of starting up of a task program, automatically creates, 20 under a given filename, a default dump file that will include all of the information contained in the database related to the task in a given path of the server computer.

In addition to the computer terminal 1, there is a computer terminal 2 that is equipped with a data-accepting/processing module 30 for accepting general-purpose data (text data).

25 The data-accepting/processing module 30 is equipped with at least a data-

accepting/processing functions group 30a corresponding to both the customized and noncustomized conditions, depending on the particular table unit.

A hard-disk drive or floppy-disk drive reads general-purpose data, namely text data, that is being input, and the data is stored on applicable hard disk or floppy disk 1a.

A database group in the database-storage/processing device 4 is controlled by a database-device control program 61 in the server computer 6.

In such a case, tables 41a, 41b, and so on are contained in a sales/purchases database 41; tables 42a, 42b, and so on are contained in an accounting database 42; and tables 43a, 43b, and so on are in a worktime/wages-related database 43.

There also can be provided other task-management database groups in addition to the task-management databases 41, 42, and 43. In such a case, a data writing/processing function that is appropriate for the additional tasks program(s) is added to the data-writing/processing functions group 20a.

Next, the operation of the basic-tasks program 10 of the present invention using the basic-tasks processing device 100 will be described, based on the flowchart in FIG. 2.

First will be described the data-entry process using a computer terminal 1 or 2 in a case where the basic-tasks program 10 is equipped with the data writing/processing software module 20.

The tasks program 11 (12) (13) for performing a company's basic tasks that are to be executed is launched (S21). At that time, the primary dump-file creating means 20c of the data writing/processing software module 20a creates, under a given filename, a default dump file in a given path of the database-storage/processing

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device 4 in the server computer 6.

Then, the table 41a (42a) (43a) of a database comprising the default dump file is used as an original table in a core region, and the table 41b (42b) (43b) for writing customized data is generated in an region other than a memory region. Also, customization is performed by adding columns to the original table in the core hard disk (S23).

In the tasks program 11 (12) (13), the data writing/processing functions group that corresponds to the customized or noncustomized conditions, along with any condition(s) relating to the entry of new data or to the revision or deletion of existing data, are accessed by each file from the data writing/processing functions group 20a in a DLL file of the data writing/processing software module 20 (S24).

Next, the name of the target database, an entry-data serial number, an identification number, additional-columns data, the style format of the additional-columns data, and the like are input in arguments of the data writing/processing functions group 20a, and an application program for batch processing is created (S25).

The application is operated from the computer terminal 1 (2), and data is sequentially entered in the original-columns data and the additional-columns data of each table, or in a new table 41b (42b) (43b) in the database.(S26).

Furthermore, for the purpose of maintaining the compatibility of the data entered simultaneously from plural terminals, the data writing/processing software module 20 includes a simultaneous-executions control means 20b (simultaneous-executions control program) for performing exclusive control of each execution unit.

Said database groups 41, 42, 43, and so on  are divided into a group of master tables and a data-table group. The group of master tables comprises at least

tables for a company's basic list of master files, a master list of account titles, a master list of customers, a master list of merchandise, and a master list of personnel, a master list of management personnel, and the like. The data-table group comprises tables of information relating to various slips such as journal vouchers, sales slips, purchase slips, price quotes, contracts, and purchase orders for product-component materials.

Also, a tasks program 11 relating to sales/purchases tasks processes a variety of slips relating to sales, orders received, payments for orders, purchases, orders placed, payment for purchases, production, transfers from warehouses for deliveries, and so on. The slip data comprises a head part and a details part, such that data conditions can be customized or not customized in four ways: (1) both the head part and the details are customized; (2) only the head part is customized; (3) only the details part is customized; and (4) neither the head part nor the details part is customized. A corresponding data writing/processing functions group 20a is created for each of these four alternatives.

Because the data writing/processing functions group 20a is installed in a DLL file, the use of the application produced by using that file prevents unnecessary operations, thereby increasing the speed of data entry/processing.

Next, a detailed embodiment of the data writing/processing functions group 20a as shown in FIG. 4 will be described.

FIG. 4 and FIG. 5 show embodiments of the data writing/processing functions group 20a relating to the aforementioned sales slips in the sales/purchases-tasks program 11.

FIG. 4 shows a new-sales-slip registering-functions group (a) in the sales-slip-writing functions group 20a in a case of new registration into the database 41.

As described above, because the sales slip is divided into a head part and a details part, it includes a functions group that consists of the four categories of customized/noncustomized conditions. Each argument is different, corresponding to the condition. In addition, separate functions groups are provided for relay slips, which relay data from received-order slips to sales slips, and for a sales slip other than a normal slip, such as a consumer-tax slip in the case of a sale that is subject to a consumption tax or sales tax.

FIG. 5 shows a sales-slip revision-registering functions group (b) and a sales-slip-deleting functions group (c).

FIG. 6 shows slip-head data (A) and (that are B) required for the registration of a new sales slip and for revision of an already registered sales slip. The data is designed to be designated in an argument (3), as shown in the Factor List on FIG. 4 (2).

The slip-head data (A) in FIG. 6 is entered only at the time of registering a new sales slip. A system number, a slip number, and other data become identification characters for determining into which tables the data, including customized data, is to be entered.

FIG. 7 shows a sales-slip's detailed data (C) that is designed to be assigned to the slip-head data of FIG. 6, which is designated in Factor (7).

The detailed data (C) is entered in a form that is to be repeated in each line of detailed data.

FIG. 8 shows how an application program for database writing is produced using the above writing functions.

In this embodiment, "DO4_ERP_Wrt1" is used for the writing function, and

columns are added to both the head and details parts of the sales slip, and a normal slip is used in the new-sales-slip registering function.

Therefore, the arguments are input into all (1-10) arguments of the list of arguments. Also shown in FIG. 8 is a structure for storing data relating to an additional style of the arguments (5) and (9) and a structure for storing information after the data has been designated in the argument (10).

Next, a method of selling said basic-tasks program 10 or said data writing/processing software module 20a will be described.

With this method, when a user-company uses a computer system and requires customization in order to add tables or columns of tables to a database from a terminal, said retailer (1) loads a primary dump file while providing a given file name for that dump file, (2) creates both additional tables for customization as a customizing region in a memory region of the database and additional columns in the original table, (3) accesses the data writing/processing function that corresponds to the customized conditions and any of the new, revision, or deletion conditions in data processing from said data writing/processing functions group by each table of various data entries/processings based on the module, and (4) creates an application program for repeating the entry/processing of the name of a targeted database, a data serial number, an identification number, additional data and the style format thereof to the arguments of the selected data writing/processing function by each table, and for writing the data to the database by batch processing. The application is sold by retailers as an attachment to the basic-tasks program 10 or the data processing software module 20a.

In addition, the user-company or its retailer collects the information related to the application program that has been developed by customization, stores that information in a database, and publicizes information about that application program

on the software company's Website. As a result, there can be constructed a system whereby that information can be accessed from said database when another user-company wants to customize its software program in a similar way. As a result, the other user-company can reduce its program-development time and also minimize the costs of development.

Next, the operation of general-purpose text data writing/processing will be described, based on FIG. 3.

As described above, the terminal 2 is equipped with a data-accepting/processing module 30 for entry/processing of general-purpose data, namely text data. The operation of data writing/processing will be described below.

First, the task program 11 (12) (13) is installed in the terminal 2 (S31). Next, a default dump file is created under a given filename in a given path of the database-storage/processing device 4 in the server computer 6 by the primary dump-file creating means 20c of the data writing/processing software module 20 (S32).

Next, the table 41a (42a) (43a) in the database comprising the default dump file is used as an original table in a core region, and a data-writing/processing table 41b (42b) (43b) into which customized data has been written is generated in an region other than its memory region. Also, customization is performed by adding columns to the original table in the core region (S33).

The general-purpose text data that is desired to be entered into the database is entered by the hard-disk drive or floppy-disk drive onto the applicable hard disk or floppy disk 1a (S 34).

A data-accepting/processing function corresponding to the customized condition(s) in the tasks program 11 (12) (13) is accessed from the data-accepting/processing functions group 30a of the DLL file of the data-

accepting/processing module 30 on a file-by-file basis (S35).

The name of the target database, the full path of the text data (which, in this embodiment, is entered on the hard-disk drive or floppy-disk drive 1a), the style format of the additional columns, and other data are input into the arguments of the data-accepting/processing function group 30a on a file-by-file basis, so as to create a database-writing application program (S36).

The application program is operated from the computer terminal 2 and performs batch processing whereby the text data is written to the database (S37).

As described above, because the data-accepting/processing function group 30a corresponding to the customized condition is selected and used in advance of the batch processing, the above-mentioned batch processing can be effectively performed and the data-entry operation can be performed at a high speed.

Next, there will be described a method for selling the aforementioned customized batch-processing application program as an attachment to said basic-tasks program 10 or the data-accepting software module 30.

With this method, when a user-company uses a computer system and wants to enter general-purpose data into the database from a terminal, the retailer selects the accepting function that corresponds to the customized condition from an accepting-functions group of said data-accepting software module 30, creates a batch-processing application program by entering at least the name of the target database and the format of the additional columns when data is being customized, and then tests that application program, which is later is sold via retailers as an attachment to the task program or the data writing/processing module.

Also, information relating to the application developed as described above is collected and stored in a database, and information regarding the content of that

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database is publicized on the software company's Website. As a result, there can be created a system whereby another user-company can use the information by accessing it from the database when that company wants to customize the application.

5        Effects of the Invention

The present invention's basic-tasks software program and the method of selling the program have the following effects.

1. The basic-tasks program is equipped with a module for writing data that enables data to be entered into a database, and the basic-tasks program can easily
10    customize database tables while maintaining compatibility between the tables. In addition, the data writing/processing can be performed at high velocity.

2. The basic-tasks program can also easily batch process the externally generated general-purpose text data that is entered by the data-writing/processing module, and the basic-tasks program also can easily be customized.

15        3. A data-writing/processing function corresponding to each task program and the customized condition(s) thereof is created for the data-writing/processing module, and, as a result, data writing/processing can be efficiently performed.

4. A data-accepting/processing function corresponding to each task program and the customized condition(s) thereof is also prepared for the data-
20    writing/processing, and, as a result, data-accepting/processing can be effectively performed.

5. When a data-writing/processing module or a basic-tasks program for such a module is sold, the retailer creates an application program that meets the user-company's request and that corresponds to the unique customization that is required

for the user-company. The retailer can sell that application program as an attachment to the module for writing data or basic-tasks program. This is an effective selling method for the retailer.

6. Similar to Effect 5, when a data-accepting/processing module is sold, because the retailer can create an application program that meets the user-company's request or desire and that corresponds to the unique customization that is required for the company and can sell that application program as an attachment to the data writing/processing module, this is an effective selling method for the retailer.

7. Also, if the information relating to customized applications is collected and stored in a database, and if a list of various customized applications is publicized on the software company's Website, another company that uses that type of information can minimize the development time and costs involved in creating a similar customized application program.